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IN THE SUPREME COURT OF THE UNITED STATES

October Term, 1958

STATES OF WISCONSIN, MINNESOTA, OHIO AND PENNSYLVANIA,
Complainants,
v.
STATE OF ILLINOIS and the SANITARY DISTRICT OF CHICAGO,
Defendants.
No. 3 Original

STATE OF MICHIGAN,
Complainant,
v.
STATE OF ILLINOIS and the SANITARY DISTRICT OF CHICAGO,
Defendants.
No. 4 Original

STATE OF NEW YORK,
Complainant,
v.
STATE OF ILLINOIS and the SANITARY DISTRICT OF CHICAGO,
Defendants.
No. 4 Original

BRIEF IN SUPPORT OF AMENDED APPLICATION OF THE STATES OF WISCONSIN, MINNESOTA, OHIO, PENNSYLVANIA, MICHIGAN AND NEW YORK FOR A RESTRAINING AND AMENDMENT OF THE DECREE OF APRIL 21, 1930 AND FOR THE GRANTING OF FURTHER RELIEF

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No. 4 Original

BRIEF IN SUPPORT OF AMENDED APPLICATION OF THE STATES OF WISCONSIN, MINNESOTA, OHIO, PENNSYLVANIA, MICHIGAN AND NEW YORK FOR A REOPENING AND AMENDMENT OF THE DECREE OF APRIL 21, 1930 AND FOR THE GRANTING OF FURTHER RELIEF.

BRIEF IN SUPPORT OF AMENDED APPLICATION OF THE STATES OF WISCONSIN, MINNESOTA, OHIO, PENNSYLVANIA, MICHIGAN AND NEW YORK FOR A REOPENING AND AMENDMENT OF THE DECREE OF APRIL 21, 1930 AND FOR THE GRANTING OF FURTHER RELIEF

I.

INTRODUCTION

Pindar, the early Greek lyric poet, in his Ode to the Greek Games, some five hundred years before Christ, wrote:

"Best of all things is water." Today the Great Lakes are often referred to as a billion dollar asset. We can do without silver, gold, diamonds, and other precious metals and stones but we cannot do without water. Recently, at a Water Conservation Conference held at Chicago, Major-General Emerson C. Itschner, Chief of the Corps of Engineers, United States Army, stated that water is now a limited resource in the United States, and he urged a stepped-up program of water conservation to keep America strong. General Itschner estimated that in seventeen years the demand for water in the United States would double. (Chicago Sun-Times; Chicago Daily Tribune; August 28, 1958) The Illinois State Water Survey agrees that the use of water will be doubled in the next seventeen years and every seventeen years for a long time to come. (Chicago Daily News, October 10, 1958)

In addition to domestic and industrial uses of water, the use of water for navigation purposes is also important.

In the light of the present critical international situation, it is important that the levels of the Great Lakes be restored and maintained at their natural levels. Shipping on the Great Lakes must be maintained at its highest level in order to provide the low cost transportation for iron ore, coal, wheat, and manufactured products to and from the various ports on the Great Lakes and thereby maintain our economic and defense strength at the highest level possible.

The attention of the Court is invited to the fact that despite the warnings of the Court, as expressed in its opinions and decrees, with respect to the diversion of water from Lake Michigan by defendants, the defendants still suffer from an insatiable thirst for more diverted water for a purpose which this Court has declared to be constitu-

tionally inadmissible, namely, sanitation.[1] This voracious appetite brings to mind the unappeasable hunger of the beast encountered by Dante, in the first canto of his Inferno:[2]

"That never doth she glut her greedy will,
And after food is hungrier than before."

Fearful that these insistent and seemingly unappeasable demands for more diverted water from the Great Lakes by the defendants might cause or bring about, unless opposed by the complainant states, a situation from which complainants and defendants alike could not be rescued even by this Court, the said complainant states join in the filing of this Amended Application with this Court. We have felt it imperative that this be done before the course of events makes it difficult if not impossible, even for this Court, to turn back the clock of time. We agree with the statement made by General Itschner that already the availability of sufficient water of good quality for industrial and community use has become critical in many areas and that the problem is becoming more acute. A good beginning in solving the problem of water shortage in the Great Lakes area would be to order the Chicago Sanitary District to return the Chicago domestic pumpage to the Great Lakes from which such domestic pumpage is taken.

II.

HISTORY OF THE LITIGATION

The state of Wisconsin filed an original action in this

[1] Wisconsin et al. v. Illinois, et al., 278 U.S. 367 (1929); and 281 U.S. 179 (1930).

[2] Longfellow translation, Inferno, Canto I, Lines 98, 99.

Court Under Section 2 of Article III of the United States Constitution in 1922. The Wisconsin bill of complaint was amended in 1925, and the states of Minnesota, Ohio and Pennsylvania became co-complainants with the state of Wisconsin. The amended bill sought an injunction to restrain the state of Illinois and the Sanitary District of Chicago from causing any water to be taken from the Great Lakes-St. Lawrence watershed in such a manner as to abstract permanently and divert the same from that watershed. In 1926 the state of Michigan filed a separate bill of complaint for the same relief. The state of New York likewise, in 1926, filed a separate bill asking for the same relief. On November 23, 1926, this court ordered the three suits consolidated for hearings before the Special Master. (273 U.S. 642, 650; 278 U.S. 367, 369, 370)

The amended bills alleged that the diversion by the defendants of huge quantities of water through the Chicago District Canal had lowered the levels of Lakes Michigan, Huron, Erie and Ontario and their connecting channels, and of the St. Lawrence River above tidewater, not less than six inches, to the serious injury of the complainant states, their citizens and property owners, and that the acts of the defendants had never been authorized by Congress but were in violation of the rights of the complainant states and their peoples, and that the withdrawals of water from Lake Michigan were for the purpose of taking care of the sewage of the Chicago area and were not justified by any control Congress had attempted to exercise or could exercise in interstate commerce over the waters of the Great Lakes, and that such withdrawals were in palpable violation of the Act of Congress of March 3, 1899. Complainants asked that the diversion of water from Lake Michigan be enjoined.

This Court referred these causes to Charles Evans

Hughes, as Special Master, and after full hearing, the Master's report was filed on November 23, 1927. The Master's report stated that the lowering of the lake levels of the Great Lakes was 6 inches based on a diversion of 8500 cubic feet per second diversion at Chicago, and that this resulted in substantial damage to complainants' navigation, commercial, and other interests. (Master's Report, November 23, 1927, p. 118)

This Court affirmed the findings of the Master as to the losses suffered by complainant states and their peoples, which resulted through the illegal diversion at Chicago, and ordered a reduction in the diversion to a point where it would rest on a legal basis, and thereby restore the navigable capacity of the Great Lakes to their proper levels. (278 U.S. 367, 420-421) The suits were then referred back to the Special Master to determine the practical measures needed to dispose of the sewage of the Chicago area without diversion, and the time required for the completion of such disposal works. The Court's decision on reference ordered the final reduction in diversion to 1500 cubic feet per second, plus domestic pumpage, to be made by December 31, 1938 by which date the sewage disposal works and facilities were to be completed. (281 U.S. 179) In this opinion, Mr. Justice Holmes pointed out that the defendants were doing a wrong to the complainants and that they must stop it, that the defendants must find a way out at their peril, and that the state of Illinois must devote all of its powers to dealing with an exigency to the magnitude of which it seems not yet to have fully awakened, and further, that Illinois cannot base any defenses upon difficulties which it has itself created. (281 U.S. 179 at 197)

On April 21, 1930, a decree was entered which provided for a gradual reduction in the unlawful diversion of Lake Michigan water and a gradual restoration of the rights of

the Lake States in order to permit the construction of the sewage disposal works claimed to be necessary to protect the health of the peoples in the Chicago area. (281 U.S. 696) Mr. Chief Justice Taft had pointed out that:

> "Though the restoration of the just rights to the complainants will be gradual instead of immediate, it must be continuous and as speedy as practicable, and must include everything that is essential to an effective project." (278 U.S. 367, at 420-421)

This Court found that the times fixed by the Master for the completion of the sewage disposal works were as liberal as the evidence permitted (281 U.S. 179, at 199). With any reasonble diligence, all of said sewage disposal works and other facilities could easily have been fully completed and put into operation on or before December 31, 1938, the date fixed for the final reduction in diversion.

After inexcusable delays in the construction program during 1930-1932, the states of Wisconsin, Minnesota, Ohio and Michigan, complaining of the delay in the Sanitary District's construction program, petitioned this Court for the appointment of a commissioner or special officer to execute the decree of April 21, 1930, on behalf of and for the defendants. The Court appointed Edward F. McClennen to make summary inquiry and report to the Court; (1) The causes of the delay in obtaining approval for and prompt construction of controlling works in the Chicago River to prevent reversals in the Chicago River in times of storm; (2) The causes of the delay in providing for the construction of the southwest side treatment works; (3) The financial measures necessary to carry out the decree of April 21, 1930. (287 U.S. 578 (1932)) After full hearings, the Master filed his report on March 13, 1933, in which, among other things, the Master pointed out that:

*"the decree is painful to the defendants and they have been influenced by hope that something would happen so that the flow at Lockport need not go as low as the 1500 c.f.s. to which the decree now limits them, after December 31, 1938, * * *"*. (Master's Report of March 13, 1933, at Page 6.) (Emphasis supplied)

The report of the Master placed the blame for the delays on defendants for failure to proceed to a decision on a site, for failure to prepare plans, designs, etc., for the key southwest treatment works, and for failure to apply for approval for controlling works in the Chicago River. (Master's Report, March 13, 1933, at pages 5-60, 125-126.) The Master also recommended enlargement of the decree of April 21, 1930, so as to require Illinois to furnish the necessary money needed and to take appropriate steps to secure completion of the facilities required to carry out the decree of the Court. (Master's Report, March 13, 1933, pages 61-112, 126-128.) On the basis of this report, the Court, on May 22, 1933, rendered its decision affirming the Master's Report. (289 U.S. 395.) On the same day, the decree was enlarged so as to require the state of Illinois to take all necessary steps to secure the moneys needed for the completion of adequate sewage disposal plants and incidental facilities for the disposition of the sewage of the Chicago area. (289 U.S. 710)

On and after December 31, 1938, the Sanitary District reduced the diversion of waters from the Great Lakes-St. Lawrence system to 1500 cubic feet per second, plus domestic pumpage.

On January 11, 1940, the state of Illinois filed its petition for a temporary increase in diversion of Lake Michigan water to 5000 cubic feet per second, plus domestic pumpage, until December 31, 1942, on the ground that a dangerous

condition to public health existed along the Sanitary District Canal and the Illinois waterway. This Court, after hearing oral argument and after having considered the petition and return thereto, and the briefs, filed a per curiam opinion, which held, in part:

> *"The state of Illinois has failed to show that it has provided all possible means at its command for the completion of the sewage treatment system as required by the decree as specifically enlarged in 1933 (289 U.S. 395, 710, 77 L. Ed. 1465, 53 S. Ct. 671, 788). No adequate excuse has been presented for the delay. (309 U.S. 569 at 571.)"* (Emphasis supplied)

Thereafter, the Court appointed Monte M. Lemann as Special Master to make summary inquiry and to report to the Court. After extended hearings, the Master filed his report on March 31, 1941, in which the Special Master recommended dismissal of defendant state of Illinois' petition for temporary increased diversion on the ground that

> "the facts proven did not establish any menace to the health of the people of Lockport and Joliet, or elsewhere along the waterway requiring an increase in diversion in water from Lake Michigan." (Master's Report, March 31, 1941, page 54).

The Court dismissed the petition of the state of Illinois, with costs, (313 U.S. 547).

In 1950, the state of Illinois petitioned the Court for an interpretation and clarification of the decree of April 21, 1930, as amended. The complainant states herein opposed such petition and moved to dismiss the petition of Illinois on the ground that the decree was clear and unambiguous. On October 23, 1950, this Court granted the motion and dismissed the petition. (340 U.S. 858.)

In November 1956, the state of Illinois petitioned this Court for temporary modification of the decree "to permit a diversion of ten thousand cubic feet of water per second, in addition to domestic pumpage, for a period of one hundred days following the entry of the Court's order authorizing such modification, within which time it is anticipated that the impairment to navigation which now exists on the Mississippi River and the Illinois Waterway can and will be ameliorated."

The states of Minnesota, Ohio, New York, Pennsylvania and Michigan agreed to allow a temporary increased diversion. Wisconsin did not so agree. The state of Wisconsin, in a short memorandum dated December 5, 1956, moved that the petition of the state of Illinois be dismissed.

The Solicitor General of the United States, J. Lee Rankin, filed a memorandum on behalf of the United States as Amicus Curiae, which pointed out the interests of the United States with regard to the paramount power of Congress in the regulation of navigation, and the treaties between tne United States and Canada which affect the total problem of diversion.

The Sanitary District of Chicago filed a motion for clarification of the decree of 1930, or in the alternative for the appointment of a Special Master. The states of Wisconsin, Ohio, Michigan and New York moved to dismiss the motion made by the Sanitary District. The Court denied the motion of the Sanitary District for clarification of the decree (352 U.S. 947) but granted the petition for a temporary increase in diversion to and including January 31, 1957. On January 28, 1957, the Court granted a motion to increase further the temporary diversion to and including February 28, 1957. (352 U.S. 983)

On March 3, 1958, the Court denied an application and motion made by complainants for an amendment of the 1930 Decree to require defendants to return the domestic pumpage at Chicago to Lake Michigan, with leave to renew the application and motion with allegations made more definite and certain as a basis for the relief sought.

III

DISCUSSION OF COMPLAINANTS' AMENDED APPLICATION

Complainants' case, as stated in the amended application, boils down to this: The defendant Sanitary District has been and is continuing to divert huge quantities of water (1800 cubic feet per second) as domestic pumpage from Lake Michigan; this water is permanently lost to the Great Lakes watershed and has the effect of lowering the levels of all of the Great Lakes (except Lake Superior) and their tributary waters by approximately two inches, thereby causing substantial, irreparable and continuing damages to complainant states and their peoples; this diversion is excessive and is increasing and the decree of April 21, 1930, should be amended to provide that the domestic pumpage at Chicago must be returned to Lake Michigan.

By an Act of the Illinois legislature in 1955, The Sanitary District changed its name to the Metropolitan Sanitary District of Greater Chicago. Apparently this was done because of the tremendous increase in size, in population and the number of industries located therein. In 1930, when the Court entered its decree, the Sanitary District comprised an area of 438 square miles, including the city of Chicago and 54 municipalities with a human population of 3,710,000, plus an industrial waste equivalent population of 1,700,000. In 1955, the Sanitary District had a total area

of 920.14 square miles and a human population of 4,600,000, with an industrial waste equivalent of 3,800,000. Since 1930, the District has doubled in size and number of municipalities. According to an estimate made by the Sanitary District the population of the District will increase to 15 or 20 million within twenty years, and the demand for water will double within 17 years. (The Story of the Metropolitan Sanitary District of Chicago; 1956, Published by the Sanitary District.)

The Sanitary District has not filed any reports with this Court since January 1, 1939, and there is no way of knowing exactly the efficiency of the operations of the treatment plants of the Sanitary District. The Sanitary District is not subject to the authority of the Illinois Sanitary Water Board insofar as control of pollution in streams is concerned. The Illinois state statute creating the Board, as amended, specifically excepted therefrom "any existing sanitary district which now has a human population of one million or more within its territorial limits." (Smith-Hurd Illinois Annotated statutes, Chapter 19, Par. 144)

Consequently, the present Sanitary District is a kingdom unto itself, from which even the state of Illinois, its creator, is excluded. This legal situation has placed an iron curtain around the Sanitary District and accurate information regarding the operations of the sewage collection system and the treatment works is difficult to obtain.

However, during the recent hearings before the Senate Subcommittee on Public Works and during the debate on the Senate floor of the Chicago Water Diversion bill, H.R. 2, 85th Congress, Second Session, the following data obtained from the Sanitary District by the U. S. Department of Health, Education and Welfare, indicates laxity and ineffectiveness of the present operations of the Sanitary Dis-

trict in the handling and treatment of the sewage of the Chicago area. In 1951, the Sanitary District attained a 92.5 per cent biochemical oxygen demand-removal; in 1952, a 93.6 per cent biochemical oxygen demand; in 1953, an 89.6 per cent biochemical oxygen demand; in 1954, a biochemical oxygen demand removal of 88.1 per cent; in 1955, an 86.1 per cent biochemical oxygen demand; in 1956, an 85.8 per cent biochemical oxygen demand removal; and in 1957, an 85.6 per cent biochemical oxygen demand. The per cent of solids removed dropped from 91.1 per cent removal in 1952 to 80.6 per cent removal of solids in 1957. The above figures show a sharp decline in the efficiency of operations of the District's sewage treatment plants. It is clear that the Sanitary District is dragging its feet insofar as the current operations of its sewage treatment works are concerned.

Over the years, the Sanitary District, in deciding on a course of action in the methods and manner of handling this sanitation problem, has committed two grievous errors:

(1) Many years ago, at the turn of the century, the Sanitary District chose to dispose of its untreated sewage by discharging it into the so-called Chicago Drainage Canal. By diverting from Lake Michigan large quantities of clean fresh water, the Sanitary District hoped not only to dilute the untreated sewage and treated sewage effluent but also to flush such sewage away from its own doorstep and down the Illinois waterway. The state law of Illinois of 1895 made it the legal duty of the defendant, Sanitary District, to divert water from Lake Michigan through the canal at the rate of 333 1/3 cubic feet per second, for every 100,000 inhabitants of the Sanitary District. As the population increased, the Sanitary District was required to increase the diversion of water from Lake Michigan. By the year 1920, the Sanitary District was obligated under the law of 1895 to divert 9,876 cubic feet per second of water from Lake

Michigan. (See p. 9, Bill of Complaint, State of Wisconsin, Oct. Term, 1921, filed 1922). The Court ordered the construction of sewage treatment plants to reduce the diversion but even with the completion of the sewage treatment program submitted by the Sanitary District at the hearings (Defendants' Exhibit 1387; Master's Report on Re-reference, Dec. 17, 1929, pages 10-11; Defendants' Ex. 1385, pages 6-7, of Master's Report on Re-reference), and approved by the Special Master (pp. 34-35 of the Report of Re-reference), the Sanitary District has not resolved its sewage disposal problems. It is clear that the Sanitary District erred in believing that dilution of its sewage effluent, and its discharge through its treatment plants into the Chicago Drainage Canal, into another drainage basin, was an effective, reasonable, and lawful method of disposing of its sewage.

The reason why dilution and subsequent discharge of sewage into the present waterway is not capable of doing a satisfactory job of sewage disposal is set forth in the amended application, particularly Paragraph III thereof. The gist of the trouble is this:

The Chicago Drainage Canal, through a system of locks and dams, operates a slack water facility. Such a system requires a minimum of velocity in order that a large waterborne traffic may safely utilize the facility. This canal system is also receiving the waters for all effluents discharged by the District's treatment plants, numerous trade wastes, as well as vast volumes of storm water which accumulate in the District's sewer system during periods of surface runoff. Storm water overflow from such "combined system" is mixed with raw sewage and when such a mixture is discharged untreated into a water, it carries large quantities of solids and biochemical oxygen demand substances. The present pollution loading in the waters of this slack water canal system is so great that no amount of

dilution water diverted from Lake Michigan can satisfy adequately the biochemical demand of this "open sewer" and still allow utilization of the canal for navigation purposes. The fact is, the District is utilizing the Drainage Canal as a huge disposal facility for the complete collection and treatment system that the Sanitary District has failed to provide as required by the Special Master and the decisions of the Court. (1927 and 1929 Reports of Special Master Hughes; also 278 U.S. 367, 281 U.S. 179).

(2) Faced with the sanitation problem created by rapidly increasing population, booming industries and an ever increasing area of service, the District has committed its second error. It has failed to provide and construct adequate sewage and industrial waste collection and treatment facilities to match this growth. On the other hand, the District has encouraged and stimulated expansion and accepted the sanitation problems of contiguous municipalities by connecting their sewers to its already overloaded collection and treatment systems, further aggravating the basic problem of complete collection and treatment of the sewage and industrial waste of the Chicago area.

Simply put, after the decree of 1930 and after further amendment of the decree in 1933, the Sanitary District very reluctantly constructed certain sewage treatment facilities to treat the sewage of the District. However, even though the final reduction in diversion to 1500 cubic feet per second, plus domestic pumpage, was made on January 1, 1939, all of the needed sewage treatment works were not completed as of that date as required. In 1940, the Court, in commenting on defendants' petition for additional temporary diversion, said: (309 U.S. 569, 571)

"The State of Illinois has failed to show that it has provided all possible means at its command for the

completion of the sewage treatment system as required by the decree as specifically enlarged in 1933 (289 U.S. 395, 710, 77 L. Ed. 1283, 1465, 53 S. Ct. 671, 788). *No adequate excuse has been presented for the delay.*" (Emphasis supplied)

Today, with a large increase in area, in services required, and in population in the Sanitary District, we find the District still procrastinating and omitting to do all within its power to provide all of the facilities needed to treat adequately all of the sewage of the District. The Sanitary District still persists in using obsolete techniques of sewage disposal by discharging the wastes, some treated, others untreated, into the Chicago Drainage Canal, where they are diluted with Lake Michigan water. The "mess" is flushed on down the waterway into the Mississippi basin. This method was archaic and inefficent in 1930 and it is ineffecient today to an even greater degree. The Sanitary District has three huge treatment plants which are capable of much better performance than shown by the results in the last years. The efficiency of operations has dropped sharply, as indicated above. Nevertheless, the District seeks by every means at its command to obtain greater amounts of diversion of dilution water from the Great Lakes watershed to the injury and at the expense of the complainant states.

IV

DAMAGE AND INJURIES INFLICTED UPON THE COMPLAINANT STATES BY REASON OF THE LOWERING OF THE LEVELS OF THE GREAT LAKES CAUSED BY DEFENDENTS' ABSTRACTION OF THE DOMESTIC PUMPAGE AT CHICAGO

The Special Master in his report of November 23, 1927,

at page 118, after discussing the question of damages sustained by complainant states, said: (Page 118)

> "I therefore find that the complainants have established that the diversion through the Chicago Drainage canal has caused substantial damage to their navigation, commerical and other interests as above stated."

This Court, in its decision of January 14, 1929 (278 U.S. 367, 421), affirmed the findings of the Special Master as to the damages suffered by complainant states and their citizens and said, in part:

> "The master finds that the damage due to the diversion at Chicago relates to navigation and commercial interests, to structures, to the convenience of summer resorts, to fishing and hunting grounds, to public parks and other enterprises, and to riparian property generally, but does not report that injury to agriculture is established. * * *
>
> "The great losses to which the complainant states and their citizens have been subjected by the reductions of levels in the various lakes and rivers, except Lake Superior, are made apparent by these figures."

The amended application herein alleges that the diversion at Chicago by defendants of 1800 cubic feet per second has caused a lowering of the levels of all of the Great Lakes (except Lake Superior) of approximately two inches and the lowering of their connecting waters which has resulted in decreasing the carrying capacity of the large lake vessels which carry 95% of the lakeborne freight, by from 180 to 200 tons per cargo. This lowering has resulted in a reduction of more than 2,500,000 tons of carrying capacity of

the Great Lakes vessels each year and causes an annual loss in revenue of more than $4,000,000. This loss is reflected in additional transportation costs to the peoples of the Great Lakes states. (See Paragraph X, Part A1, Amended Application).

The allegations in the Amended Application further charge that the diversion of Lake Michigan water at Chicago in the guise of "domestic pumpage", by lowering the lake levels, has nullified and will continue to nullify costly improvements in aid of navigation made by the Federal Government under direct authority of Congress, and further has nullified and will continue to nullify costly improvements made by state and local governments, private industries and individuals, in port development projects, and that the large and extensive damages so sustained by complainants amount to many millions of dollars. The Amended Application further alleges that the port development expenditures for the Great Lakes ports for the 11-year period 1946-1957 totalled approximately 147 million dollars. (World Ports magazine, August 1958, page 27, Amundsen publications, Southern Building, Washington, D.C.)

The Amended Application further shows that in addition to the obstruction of all of the Federal channels, harbors, and harbor improvements on the Great Lakes, and in the ports, harbors and inner channels located in the states of Wisconsin, Michigan, Ohio, Pennsylvania and New York, the abstraction of the domestic pumpage at Chicago by defendants has reduced the navigable capacity of all of the unimproved harbors, landings, bays, inlets, river mouths, and small sheltered waters used by pleasure boats, fishing boats and similar small craft along the shoreline of Lakes Michigan and Huron, Erie and Ontario, and along the St. Lawrence River, in the states of Wisconsin, Michigan, Ohio,

Pennsylvania and New York. Such action by defendants has resulted in substantial damage to the complainant states.

In addition, the states of Minnesota and Wisconsin and their peoples have sustained substantial damages by reason of the impairment of the usefulness of their ports and harbors located on Lake Superior. Since the usefulness and prosperity of the Lake Superior ports are dependent upon obtaining in the lower Great Lakes adequate channels and harbors, and the lowering of the navigable channels in the lower Great Lakes seriously damages and interferes with the commerce of the Lake Superior ports of Wisconsin and Minnesota.

The direct damage to property in complainant states, other than damage directly to navigation interests, caused by defendants' abstraction of the domestic pumpage at Chicago which results in a lowering of the levels of the Great Lakes includes to the substantial damage inflicted upon riparian property along the hundreds of miles of shoreline of complainant states where large investments have been made in commercial summer resorts, private summer cottages and homes in the summer resort areas of Wisconsin, Michigan, Ohio and New York. The value of this resort property as aforesaid is seriously depreciated by the artificial lowering of the Great Lakes and the recession of the waters of such lakes near their shorelines during low water cycles. Extensive damage has also been caused to fishing and hunting grounds, spawning beds and open marshes which are the habitat of extensive and valuable wildlife in complainant states.

Complainant states have suffered injuries in relation to their proprietary and quasi-sovereign rights. They have

been hampered in the performance of their obligations as parens patriae of the rights of their citizens.

The next class of injury and damages suffered by the complainant state of New York and its Power Authority, an instrumentality of the state, relates to the interference with the uses of the Niagara and St. Lawrence Rivers due to the lowering of the levels thereof by reason of the abstraction by defendants of huge quantities of water from the Great Lakes—St. Lawrence watershed. This will be discussed in the next section. The annual revenue loss to the New York Power Authority's Niagara and St. Lawrence plants from a permanent diversion of 1800 cubic feet per second at Chicago, is estimated at $1,027,841.15 by the New York Power Authority.

V.

DAMAGES SUSTAINED BY COMPLAINANT STATE OF NEW YORK RELATED TO INTERFERENCE WITH THE USE OF THE WATERS OF THE NIAGARA AND ST. LAWRENCE RIVERS FOR POWER DEVELOPMENT

The Special Master in his first report to the Court (November 23, 1926) made no finding that the state of New York had sustained damages under the allegations of Paragraph III of the complaint filed by New York in 1926. The Special Master properly refused to include any findings of damages to the state of New York in 1927 related to power development on the Niagara and St. Lawrence Rivers. However, the circumstances in this regard are entirely changed today.

The third paragraph of the complaint filed by the

state of New York in 1926 alleged that the diversion of Lake Michigan water at Chicago would interfere with the use of the waters of the Niagara and St. Lawrence Rivers by New York and her citizens for the development of power. However, the New York complaint did not allege interference with any existing power development, the existence of any definite project for using the waters for power development or any authorization by Canada or the United States to use the waters for that purpose. In its order authorizing New York to participate in the taking of evidence in the hearing before the Special Master theretofore appointed in *Wisconsin, et al v. Illinois, et al,* this Court reserved authority to make any appropriate order with respect to the matters alleged in the third paragraph of the New York complaint (November 23, 1926, 273 U.S. 642); and Special Master Charles Evans Hughes ruled that he would not receive any evidence relating to the third paragraph of the New York complaint. (Tr. 1310-11) Subsequently the Court struck the third paragraph of the New York complaint, upon the ground that it presented only abstract questions of law, without prejudice to the litigation of such questions when and if they should arise in a concrete case. (274 U.S. 488; 274 U.S. 712)

Notwithstanding the ruling of the Special Master (Tr. 1310-12), Colonel Hugh Cooper, a witness for the complainants, after testifying as to the economic value of the use of the diverted water for power development at Chicago, testified (apparently without objection) to the economic value which the diverted water would have for power development if it flowed in its natural course through the Niagara and St. Lawrence Rivers. Colonel Cooper also testified that Wisconsin, Minnesota and Michigan would not be benefited by the development of the Niagara and St. Lawrence power; that the eastern part of Ohio, part of Pennsylvania, all of New York and all or part of certain New

England states would be benefited by the development of such power. (Tr. 1332-47)

Subsequently, the defendants moved to strike all of the testimony of Colonel Cooper appearing on pages 1329 through 1347 of the transcript. The Special Master granted the motion to strike all of this testimony upon the ground that the Supreme Court had stricken paragraph 3 of the New York complaint as speculative so that any alleged benefits to other states from such potential New York developments were equally speculative; that plainly none of the complainant states other than New York were in a position to show any damage to existing power developments in such states or even speculative damage to any potential or conjectural power developments in those states. However, the Special Master stated that if any of the states could produce evidence which showed actual or threatened damage to power developments in such states which were not speculative or conjectural, the evidence would be relevant and competent and would be received. (Tr. 5430-49)

With respect to the ground upon which certain testimony of Colonel Hugh Cooper was stricken in the original Lakes Level litigation it is clear that Special Master Charles Evans Hughes' ruling sustaining a motion to strike Colonel Cooper's testimony relating to the economic value of the diverted water was premised on the fact that the Supreme Court held that paragraph 3 of the New York complaint presented only abstract questions of law.

At the time of the hearings before Special Master Charles Evans Hughes (1926-1927), due to then existing physical conditions, the Chicago diversion could not damage any existing hydroelectric development or any potential hydroelectric development in any of the complainant lake states

except the state of New York. The Amended Complaint in *Wisconsin, et al v. Illinois and Sanitary District of Chicago* alleged that the diversion of water for power development by the Chicago District had become a coordinate objective and purpose of the defendants. However, neither the complaint in *Wisconsin, et al* nor in *Michigan v. Illinois and Sanitary District of Chicago* alleged that the diversion damaged any existing or potential power developments in those states.

Today, the situation is entirely different. The damages with respect to the use of the waters of the Niagara and St. Lawrence Rivers are not speculative or hypothetical in any respect. The New York Power Authority and Canada have completed their power works on the St. Lawrence River. Canada has for many years operated a hydroelectric power plant on the Niagara River. The Niagara River power project of the New York Power Authority is under construction and will be completed in a few years. The first generator of that project will be put into operation November 1, 1960 and the seven generators will be in operation by August 1, 1961. Manifestly, today, complainant state of New York is entitled to enjoin the diversion of the domestic pumpage taken from the Great Lakes-St. Lawrence watershed at Chicago because of the enormous losses now sustained and additional losses which will be sustained in the future.

Those damages sustained by the state of New York by reason of the diversion of 1800 cubic feet per second of "domestic pumpage" at Chicago and the resultant interference with the use of the waters of the Niagara and St. Lawrence Rivers are substantial; these continuous annual losses of more than a million dollars can be halted by cessation of the diversion of the domestic pumpage at Chicago. (See Paragraph X of the Amended Application)

VI

SOLUTION OF THE DISTRICT'S SEWAGE DISPOSAL PROBLEM PROPOUNDED BY COMPLAINANT STATES

It should be recalled that in the second Master's report dated December 17, 1929 the Sanitary District of Chicago convinced Special Master Charles Evans Hughes that it should be allowed to divert into the Sanitary Canal not only the 1,500 c.f.s. needed for navigation, but also all of its "domestic pumpage." The complainant states filed objections against allowing the Sanitary District to discharge into the canal the water comprehended under the term "domestic pumpage," and they proposed that the flow of the water in the canal be reversed so that the water might be returned to Lake Michigan. This proposal by complainants may have been somewhat impractical at that time, particularly since the District in 1930 had few sewage disposal facilities. However, the Court in its opinion indicated that it would leave the matter open for further consideration, and it is on the basis of this fact that the complainants have filed the instant petition. (281 U.S. 179)

A. What is "domestic pumpage"?

The city of Chicago through its waterworks abstracts water from Lake Michigan and, after filtration and treatment, distributes it to all its users for residential, commercial and industrial purposes. Ultimately this water finds its way into the sewers which are operated by and under the control of the Sanitary District. Obviously, as the population of Chicago and the municipalities in its periphery grow, the area served increases, and as industrial development expands, greater quantities of water will be required to satisfy the needs of "domestic pumpage." At the

present time approximately, 1,800 c.f.s. is extracted for this purpose, and it is conceivable, certainly, that with the growths that have been projected, this amount will double and treble within the next fifteen to twenty years.

Under the decree of this Court of 1930, there is no limitation on the amount of "domestic pumpage" which the city of Chicago may abstract from the waters of Lake Michigan for domestic, commercial and industrial uses, nor do the complainant states contend that there should be any such limitation. As a riparian owner on the Great Lakes, the state of Illinois has an undoubted right to abstract from Lake Michigan such water as it requires for the use of the inhabitants which reside within the basin comprising the Great Lakes. However, the people of Chicago and its surrounding municipalities should not be allowed to abstract water from Lake Michigan under the guise of "domestic pumpage," and then after having used it and purified the resulting sewage, divert it to another and different water basin.[3] We assert (and we believe this assertion cannot be contradicted) that every municipality situated on the shores of any of the Great Lakes return its so-called "domestic pumpage" to the waters of the lake from which it is taken after treatment and chlorination, when necessary. Chicago and its surrounding municipalities seem to assume that they are sacrosanct, that their case is so special that they should be allowed to divert the treated effluent into another drainage water basin through the Sanitary Canal

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[3]

It is significant that the entire state of Illinois contributes only 503 c.f.s. of water to the Great Lakes Basin while extracting more than 3300 c.f.s. of water therefrom. Only Indiana among the Great Lakes states contributes less water to the basin. See brief of State of Michigan in State of Mich. v. State of Illinois and Sanitary District of Chicago. Oct. Term 1926 p 47, citing Record before Special Master Charles Evans Hughes p 1143.

and waterway. If the cities of Milwaukee, Cleveland, and Toronto are able to return their treated effluent to Lakes Michigan, Erie and Ontario, respectively, without being exposed to dangers of contamination, we cannot see any logical reason why Chicago should be exempted from doing likewise. If after due inquiry and consideration by this Court it should be decided that the Metropolitan Sanitary District of Greater Chicago should be compelled to return its fully treated effluent back to Lake Michigan, as is done by every municipality in the Great Lakes Basin, several salutary things will be accomplished:

(1) The Great Lakes Basin will receive all of the water which was abstracted through "domestic pumpage," and thus levels of the Great Lakes-St. Lawrence Basin will be restored to and maintained at the level which was intended by nature.

(2) The Sanitary District will be stimulated to treat its sanitary and industrial wastes properly and adequately to the end that the source of water supply used in the Chicago area will not be endangered or contaminated. This is presently done by every other municipality on the Great Lakes.

B. The Sanitary District Has No Right to Divert Its Treated Effluent into the Sanitary Canal—It Should be Made to Return Such Effluent to the Great Lakes Basin

It is difficult for the complainant states to understand upon what legal or equitable doctrine the state of Illinois and the Sanitary District can support its insistence that it be allowed to divert "domestic pumpage" into the Chicago Drainage Canal rather than return it to the lake, except that in deference to the exigencies existing at Chicago at

the time the Court entered its decree of April 21, 1930. With only partial treatment of the sewage of the Chicago area in 1930, the Court apparently feared that a return of the effluent might create a health hazard. Today, the situation is entirely different. All of the sewage of the Chicago area is treated in the Sanitary District's three large sewage treatment works. The Sanitary District affirms that the effluent of its north side treatment plant is:

> "Almost as clear as drinking water and quite as harmless as it finally leaves the plant through an outlet and into and through an artificial channel which discharges into the Chicago River." (See complainants' Ex. 233, Wisconsin, et al v. Illinois et al, 278 U.S. 367 (1929))

In a pamphlet prepared and distributed by the Sanitary District of Chicago, August 1928, it was stated: (p. 91)

> "Final settling tanks is the next step in the activated sludge process. After the process of aeration is completed, the mixture or sewage and activated sludge, passes through the mechanically cleaned tanks; * * * *the effluent as discharged from these tanks is a clear, odorless liquid * * * non-putrescible.*" (Emphasis added)

In the same pamphlet (Engineering Works of the Sanitary District of Chicago, August 1928) it was further stated that:

> "The effluent produced by the activated sludge plant appears somewhat superior at times to that produced by the sedimentation trickling filter process. It accomplishes from 85 to 95 per cent reduction of the biochemical oxygen demand, 90 to 95 per cent reduction

of suspended solids and from 92 to 98 reduction in bacteria."

The late Langdon Pearse, former chief sanitary engineer for the Sanitary District of Chicago, testified before the Rivers and Harbors Committee of the House of Representatives in 1924 and stated that:

> "The biological processes, such as sprinkling filters or activated sludge, when properly operated produce a high-grade effluent, requiring no dilution, in which fish can live. The effluent further will produce no nuisance and can be turned into a watercourse, even though dry, without fear of consequences." (H. Doc. No. 184, 73rd Congress, 2nd Sess. p. 76)

Several years later, Langdon Pearse testified before Special Master Hughes, where he reaffirmed his 1924 testimony as to the high quality of the effluent from an activated sludge plant and stated further that fish were living in the effluent in the Sanitary District's trickling filter plant, right at the filters. (Transcript of testimony, Original Hearing, pp 5423-5425, Wisconsin, et al v. Illinois et al)

Other noted sanitary engineers likewise testified before Special Master Hughes that the effluent of a modern activated sludge sewage disposal plant is stable, odorless, clear and sparkling, and that such effluent will remain stable indefinitely. (Tr. of testimony before Master on Re-reference, L. R. Howson, p. 10667; George D. Bascoigne, p. 10697; Darwin W. Townsend, p. 10720. These were complainants' witnesses.)

The Sanitary District obtained a 93.6 per cent reduction in biochemical oxygen demand in 1952 and in the same year obtained a reduction of 91.1 per cent in suspended solids.

Other cities on the Great Lakes have an even better record of efficiency in their sewage disposal plant operations. Milwaukee, for example, attains an efficiency of 95 per cent biochemical oxygen removal, and 95% reduction in solids.

In 1913 Henry L. Stimson denied the application of the Sanitary District of Chicago for diversion of 10,000 cubic feet per second. The reasoning adopted by him at that time is even more compelling today. Secretary Stimson stated, among other things:[4]

> "In a word, every drop of water taken out at Chicago necessarily tends to nullify costly improvements made under direct authority of Congress throughout the Great Lakes, and a withdrawal of the amount now applied for would nullify such expenditures to amount of many millions of dollars, as well as inflict an even *greater loss upon the navigation interests using such waters.*
>
> *"On the other hand, the demand for the diversion of this water at Chicago is based solely upon the needs of that city for sanitation.* • • •
>
> *"The evidence indicates that at bottom the issue comes down to the question of costs.* (Emphasis supplied) Other adequate systems of sewage disposal are possible and are in use throughout the world. The problem that confronts Chicago is not different in kind but simply larger and more pressing than that which confronts all of the other cities on the Great Lakes, in which nearly three millions of the people of this country are living. The urban population of those

[4] "The Chicago Water Diversion Controversy," Marquette Law Review, Vol. 30, No. 3, pp 155, 157, December 1946.

cities, like that of Chicago, is rapidly increasing, and a method of disposition of their sewage which will not injure the potable character of the water of the Lakes must sooner or later be found for them all. The evidence before me satisfied me that it would be possible in one of several ways to at least so purify the sewage of Chicago as to require very much less water for its dilution than is now required by it in its unpurified condition. A recent report of the Engineer of the Sanitary Commission (October 12, 1911) proposes eventually to use some such method but proposes to postpone its installation for a number of years to come, relying upon the present more wasteful method in the meanwhile. *It is manifest that so long as the city is permitted to increase the amount of water which it may take from the Lakes, there will be a very strong temptation placed upon it to postpone a more scientific and possibly more expensive method of disposing of its sewage.* (Emphasis supplied) This is particularly true in view of the fact that by so doing it may still further diminish its expenses by utilizing the water diverted from the Lakes for water power at Lockport. But it must be remembered that for every unit of horsepower realized by this water at Lockport, four units of similar horsepower would be produced at Niagara, where the natural conditions are so much more favorable. Without, therefore, going into further detail in a discussion of this question, I feel clear that no such case of necessity has been presented by the evidence before me as would justify the proposed injury to the many varied interests in the great waterways of our lakes and their appurtenant rivers." (Emphasis supplied)

Many great and important events and developments have occurred in the Great Lakes-St. Lawrence Basin since 1913, and in fact since 1930, which make it even more imperative

that every drop of water reaching the Great Lakes Basin should be allowed to remain therein. This Court will take judicial notice of the great increase in population in the Great Lakes area and the tremendous surge of industrial development that has taken place along the shores of the Great Lakes. The present construction of the St. Lawrence Seaway at a cost running into hundreds of millions of dollars through the joint action and efforts of Canada and the United States, the construction of the tremendous hydro-electric power works on the Niagara, and on the St. Lawrence River by the state of New York jointly with the province of Ontario, the deepening of the connecting channels between lakes Erie and Huron, and the expansion of lock facilities at Sault Ste. Marie during World War II,—these are but a few of the events which have taken place, which we believe should move this Court to a re-evaluation of the terms of the decree of 1930. If, as Secretary of War Stimson stated in 1913, and as Special Master Hughes reiterated, every drop of water extracted from and permanently lost to this Basin brings about nullification of the value of works running into hundreds of millions of dollars, then it is the height of absurdity to permit the Sanitary District of the state of Illinois to deprive the Great Lakes-St. Lawrence water basin of water which legally and equitably belongs therein, on the specious plea of the Sanitary District that it will cost money to do that which every municipality, except Chicago, on the Great Lakes has been and now is doing, namely, returning their treated effluent to the basin from which it came. Exactly what will be required to be done on the part of the Sanitary District in the rearrangement of its collection facilities and in the construction of works and tunnels to accomplish the aforesaid purpose, is a matter which undoubtedly this Court, through a Master, should inquire into and consider. However, it is the position of the complainant states that regardless of the inconvenience and

cost to be borne by the state of Illinois and the Sanitary District, they should be compelled to restore to the Great Lakes Basin the water which they are presently extracting as "domestic pumpage," and the greater and increasing quantities which they will unquestionably extract in this form during the not too distant future.

VII

THIS COURT, THROUGH A SPECIAL MASTER, IF NECESSARY, SHOULD INQUIRE INTO AND FIND ANSWERS TO THE FOLLOWING QUESTIONS

The complainant states respectfully suggest to the Court that should a Special Master be appointed some of the issues which should be explored by him should be the following:

(1) To what extent are present unsatisfactory conditions in the Chicago Sanitary and Ship Canal created by uncollected and untreated sewage or industrial wastes originating in the Sanitary District?

(2) To what extent are present unsatisfactory conditions within said Canal caused by industrial effluent from industries located within the District whose use of water cannot be termed as "domestic pumpage" within the intent and meaning of the 1930 decree?

(3) To what extent can the present treatment of sewage and industrial wastes be increased so as to reduce the demand for more diverted water for dilution purposes?

(4) What means of correcting unsatisfactory conditions in the Ship Canal are available and can be made use of

other than additional diversion of water from Lake Michigan, such as:

(a) Physical removal of present sludge deposits in canals and waterways;

(b) Supplementing flow in Ship Canal from upstream storage of water in the Des Plaines River Basin;

(c) Aeration of the water in the Ship Canal;

(d) Any other alternates that might be conceived by sanitary engineers and scientists?

(5) Should a Permanent Master be appointed with full authority granted by this Court to maintain surveillance over the conduct and operation of the facilities maintained by the Sanitary District, which Master shall have authority to receive and examine periodic reports from the District, to make inquiry at all reasonable times and occasions concerning not only the accuracy of said reports but also concerning the manner and efficiency with which the Sanitary District operates and maintains its sewage disposal facilities; said Master making all of such information received by him available to the complainant states?

(6) Under what terms and conditions shall the Sanitary District of the State of Illinois be compelled to return the treated effluent of its sewage disposal plants back to the waters of Lake Michigan? Undoubtedly, this will entail the construction of expensive facilities and a time schedule should be determined after considering the exigencies that exist at the present time.

The enumeration of the foregoing issues, of course, does

not preclude the consideration of and inquiry into any other pertinent issues that may arise.

VIII

THE DIVERSION OF "DOMESTIC PUMPAGE" INTO THE SHIP CANAL IS NOT NECESSARY TO MAINTAIN NAVIGATION THEREIN

In Paragraph XIII of Amended Application, the complainant states allege that it is not their intention to challenge the diversion of 1500 c.f.s. permitted by the decree of 1930 for the purpose of maintaining navigation in the Sanitary and Ship Canal, but they do challenge the diversion of any volume of water in addition thereto in the form of "domestic pumpage" under the pretext that such is necessary to maintain navigation in this Canal.

It should be noted that in the memorandum issued by Secretary of War Stimson in 1913, it is stated:[5]

> "* * * The Chief of Engineers reports that so far as the interests of navigation alone are concerned, even if we should eventually construct a deep waterway from the Great Lakes to the Mississippi over the route of the Sanitary Canal, the maximum amount of water to be diverted from Lake Michigan need actually be not over 1000 feet per second or less than a quarter of the amount already being used for sanitary purposes in the Canal. This estimate is confirmed by the report of the Special Board of Engineers on the deep waterway from Lockport, Illinois, to the mouth of the Illinois River, dated

[5] The Chicago Water Diversion Controversy, Marquette Law Review, Vol. 30, December 1946, No. 3, pp. 155, 156.

January 25, 1911. It is also confirmed by the practical experience of the great Manchester Ship Canal in England. *From the standpoint of navigation alone in such a waterway, too great a diversion of water would be a distinct injury rather than a benefit. It would increase the velocity of the current and increase the danger of overflow and damage to adjacent lands.*" (Emphasis supplied)

In a report made by the Division Engineer, North Central Division Corps of Engineers, United States Army, in January 1957, on the subject "Effects of an Additional Diversion of Water from Lake Michigan at Chicago," it is stated:[6]

> "184. Commerce on the Illinois Waterway has increased from a total of 1,695,120 tons in 1935 to 21,362,852 tons in 1955, the latest year for which statistics have been compiled. Recent studies of present and prospective water requirements for navigation on the Illinois Waterway show that the authorized diversion of 1,500 cubic feet per second from Lake Michigan is adequate to meet those requirements."

There is ample data contained in this report supporting the foregoing conclusion of the United States Corps of Engineers; consequently, there is no merit to the plea that additional water in the form of "domestic pumpage" should be diverted into this waterway for the purpose of maintaining navigation. Another consideration which militates against the increased diversion is that such increase raises the velocity of the water in the Canal, which makes it more difficult for barges to navigate the Canal. This fact was

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[6]

85th Congress, 1st Session, Senate Document No. 28, p. 48.

also mentioned by Secretary of War Stimson in his memorandum of 1913.

In an article written by General P. D. Berrigan, formerly with the United States Corps of Engineers, which appeared in the November-December 1957 issue of the Military Engineer, under the title "Chicago Diversion from Lake Michigan," General Berrigan discusses the adverse effects of increased diversion on navigation in the Ship Canal, which were observed during the period from December 27, 1956 through February 1957 (such increase having been permitted by an order of this Court) and states as follows:

> "Increased current velocities in channels of the Illinois Waterway during the period of increased diversion were of interest because of their effects on navigation. The relatively restricted reach extending from the junction of the Calumet-Sag Channel to the lock at Lockport was of particular interest. Normal velocities of a fraction of a mile per hour were increased to about 2 miles per hour. In this reach on December 24, a motor vessel lost control of several barges while rearranging its tow."

The result is that the Sanitary District of Chicago is straddling both horns of a dilemma; it insists upon more water to be diverted into the Ship Canal to help dilute untreated or inadequately treated sewage and waste; and on the other hand, it is thereby causing an injury to navigation on the Ship Canal, which since 1933 has been a Federal navigable waterway by increasing the velocity of the current thus rendering it hazardous to vessels attempting to use the same.

IX

CONCLUSION

For the above reasons we respectfully submit that the court should grant the relief prayed for in our application, namely:

(1) That the state of Illinois and the Metropolitan Sanitary District of Greater Chicago be forthwith restrained and enjoined from discharging any of the treated effluents emanating from its sewage and industrial treatment facilities into the Sanitary and Ship Canal and that the said state of Illinois and the Metropolitan Sanitary District of Greater Chicago be required by mandatory injunction of this Court to return all of said effluent to the Great Lakes basin from which it originally came in the form of "domestic pumpage," the aforesaid injunctions to be made effective at such times and under such terms as to this Court shall seem meet and just.

(2) That if such decree is not made forthwith, a Special Master be appointed to take testimony and evidence with respect to the issues contained in this petition and to report with respect to the time, method, and manner in which the state of Illinois and the Metropolitan Sanitary District of Greater Chicago shall be required to comply with Paragraph (1) of this prayer, and with respect to whether the Court should appoint a Permanent Master invested with such authority as he may require for the purpose of maintaining surveillance over the operation of the sewers, interceptors, and other sewage and water collecting facilities and the sewage disposal and industrial treatment plants

and works operated by the Metropolitan Sanitary District of Greater Chicago.

Respectfully submitted,

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